NOTES FROM THE BOTANIC GARDENS, SYDNEY.

No. 14.

By J. H. Maiden and E. Betche.

(Plates xxxi.-xxxii.)

RUTACEÆ.

Atalantia glauca Hook. f.

Dubbo district (C. Marriott, District Forester; January, 1909).

The fruits are described as globular, about ½ inch in diameter, and all fruits we have previously seen agree well with this description. Mr. Marriott's specimens include some pear-shaped ones attaining nearly 1 inch in length. This seems to be merely variation in the shape of the fruit; the leaves are exactly as in the typical form; flowers we have not yet seen.

LEGUMINOSÆ.

Isotropis atropurpurea F.v.M.

Denman (W. Heron; September, 1908).

We published this plant as new for New South Wales in these Proceedings, xxxiii., p.307, 1908, the localities given being Bingara and Manilla. We are now able to add a third New South Wales locality. Mr. Heron writes :—"It is not very common in this part; it grows from 3 to 4 feet high."

Pultenæa cinerascens Maiden and Betche.

Coonabarabran, Forked Mountain, Timor Rock, Rocky Glen (J. L. Boorman; September, 1908).

Four new localities, in the same district, for a rare plant.

Acacia Dorothea Maiden.

Since the publication of the description of this species in these Proceedings, xxvi., p.12, 1901, we have received numerous specimens from Blue Mountain localities, which do not much enlarge the very limited geographical range of the species, but which necessitate the transposition of the species into the Section *Juliflorœ*. The new material, especially specimens in bud from Leura (A. A. Hamilton and others), show distinctly that the flowers are in short spikes, $\frac{1}{4}$-$\frac{1}{2}$ inch (5-11 mm.) long, though often appearing globular when in full flower.

This transposition makes the affinities of the species still more difficult to trace. There is not a single Acacia in *Juliflorœ* with prominently 1-nerved phyllodia, so the species stands isolated in this Section. Its nearest affinities are doubtless in *Uninerves*, but in this Section it would stand isolated by its spike-like inflorescence.

The position of this Acacia is therefore one not free from doubt.

Bentham regarded the *phyllodia characters of primary importance*, and kept a number of Acacias with spicate inflorescence under the Section *Pungentes*. Mueller regarded the spicate inflorescence as of more importance than the phyllodia, and removed Bentham's spicate *Pungentes* to *Juliflorœ*.

If we take Bentham's view, we must leave it in *Uninerves*. If we take Mueller's view, we must remove it to *Juliflorœ*.

HALORRHAGACEÆ.

Halorrhagis Lucasi, n.sp. (Plate xxxi.)

Frutex erectus, lævis, glaber, infra 1 m. altus, ramis quadrangulis. Folia opposita, lanceolata, extenuata basi sed sessilia, 3·5-5 cm. longa, irregulariter serrata. Flores solitarii in brevibus pedicellis in axillis foliorum superiorum, vel terminales in brevibus axillaribus foliatis ramulis. Bracteolæ foliaceæ sessiles in pedicello juxta calycis basem. Calycis tubus lævis, quatuor longitudinalibus alis, lobis lato-triangulis, tubo circiter duplo brevioribus. Petala quatuor, alba, linearia, circiter 12 mm. longa et

4 mm. lata, carinis obtusis. Stamina octo, petalis subæquilongis; antheræ longæ, lineares, erectæ, duabus cellis, aperientes longitudinale. Styli quatuor. Ovarium quatuor cellis, pendulo ovulo in singulis cellis. Fructus (non visus maturus), ellipticus, cellis quatuor, lævis, 5-6 mm. longus, quatuor alis, alæ circiter 1½ mm. latæ.

Collected by Mr. A. H. S. Lucas, late President of this Society, "in a wild gully near Gordon, Port Jackson," November, 1908.

An erect bushy shrub under 3 feet high, smooth and glabrous in all its parts; the branches quadrangular and slightly winged by the decurrent bases of the leaves, leafless in the lower part but marked by scars of the fallen leaves. Leaves opposite, lanceolate, narrowed towards the base, but sessile and narrowly decurrent, 3½ to 5 cm. long except the upper shorter floral leaves, irregularly serrate, the teeth with reddish callous tips. Flowers solitary, shortly pedicellate in the axils of the upper leaves, or terminal on short axillary leafy shoots, the two bracteoles a short distance removed from the base of the calyx, minutely denticulate. Calyx-tube smooth, without any of the asperities so common in the genus, but with four longitudinal wings generally more or less undulate; calyx-lobes broadly triangular, alternating with the wings, rather above half as long as the tube. Petals 4, white, linear, about 12 mm. long and 4 mm. broad, bluntly keeled, alternating with the calyx-lobes. Stamens 8, nearly as long as the petals, the filaments less than ⅓ the length of the erect anthers; anthers linear, 2-celled, opening longitudinally. Styles 4, about 1½ to 2 mm. long, with papillose stigmas. Ovarium quite adnate to the calyx-tube, 4-celled, with a pendulous ovule in each cell. Fruit (not seen quite ripe) elliptical, smooth, 5 to 6 mm. long without the calyx-lobes, conspicuously 4-winged, the wings about 1½ mm. broad, 4-celled. Ripe seeds not seen.

This is the most handsome species of a genus consisting generally of insignificant looking plants with no claim to beauty. The smooth glossy foliage and the comparatively large white flowers make it quite worth cultivating. It is rather difficult to find its exact position in the system, as it differs so essentially

from all other species known, but it belongs to Series iii. *Oppositiflorœ* of Bentham's system, and we propose to place it next to *H. monosperma* F.v.M.

MYRTACEÆ.

BAECKEA DENTICULATA, n.sp. (Plate xxxii.)

Frutex diffusus, glaber. Folia breviter petiolata, angusta ovata, 4-6 mm. longa et circiter 2-3 mm. lata, rotundata basi, denticulato-ciliata. Flores 2-8, terminales in axillis bractearum, vel rarius in axillis summorum foliorum. Pedicellis circiter æquilongis floribus, articulati super medium, duabus oppositis latis bracteis in articulo. Calycis tubus turbinatus, circiter 1½ mm. longus, brevibus triangulis lobis. Petala orbiculata, alba, lobis calycis circiter duplo longiora. Stamina 20-25 in ordine regulari; omnia filamenta filiformia; antheræ parvæ vix longiores quam latæ; duabus cellis, cellis parallelis, aperientes in duabus fissuris longitudinalibus. Ovarium tribus cellis, duabus collateralibus ovulis in singulis cellis.

Kybean, 3800 to 4000 feet high, near the Kydra Trigonometrical Station, east of Nimitybelle (R. H. Cambage; November, 1908).

A prostrate or diffuse shrub with terete branches, glabrous in all its parts. Leaves not dense, opposite, spreading, very shortly petiolate, narrow-ovate, 4 to 6 mm. long and about half as broad, rounded and broad at the base, more narrowed towards the top but not acute, flat or the margins slightly recurved, prominently denticulate-ciliate, rather paler underneath. Flowers white with the faintest tint of pink, terminal or the branchlets in the axils of the bracts forming umbels of 2 to 8 flowers, occasionally with branched rays, more rarely solitary and terminal or in the axils of the uppermost leaves. Pedicels mostly longer than, or as long as flowers, articulate above the middle, with two oppósite small broad bracts at the articulation. Calyx-tube turbinate, about 1½ mm. long, with short triangular lobes, faintly ciliate. Petals orbicular, about twice as long as the calyx-lobes. Stamens 20 to 25 in a regular row round the margin of the disk; filaments all

filiform; anthers small, not much longer than broad, 2-celled, the cells parallel, opening in longitudinal slits. Ovarium 3-celled, with two collateral ovules in each cell. Fruits not seen.

The new species of *Baeckea* belongs to Bentham's Section ii. *Euryomyrtus*, and is sharply distinct from the few species in this Section in the broad, neatly ciliate leaves, and, above all, by the terminal inflorescence. The terminal inflorescence is unique in the genus, as far as we know, but it shows a state of transition from axillary to terminal inflorescence; the bracts supporting the rays of the terminal umbel are deformed leaves, and, therefore, the inflorescence might be described in other words: flowers axillary in the crowded uppermost leaves which are reduced to bracts.

COMPOSITÆ.

OLEARIA FLOCKTONÆ, n.sp.

Dorrigo Table-land, on a clearing where *Fagus Moorei* formerly grew, within 2 miles of the east of the township (J. L. Boorman; March, 1909).

Fruticosus, dense ramosus, 1-1½ m. altus, partibus juvenilibus tectis capillis minutis crispatis non glutinosis. Folia linearia, conferta, 5-10 cm. longa, vix 5 mm. lata, marginibus recurvatis. Capitula radiata circiter 20-30, paniculo terminali corymbosoque. Involucrum hemisphæricum circiter 15 mm. transversim, squamis acutis. Flores radiales circiter 30, albi violaceo tincti. Styli appendices angustæ. Achenia omnia dense sericeo-pilosa; pappi setæ prope longitudine æquales.

An herbaceous plant attaining 4 to 5 feet in height, much branched from near the base, the stems unbranched till near the top and then branched again, terminating in the corymbose inflorescence, covered with minute crisped but scarcely glandular hairs, as is also the young foliage. Leaves linear, crowded, 2-4 inches long and ⅓-⅛ inch broad, sessile, the prominent midrib on the underside running down the stems and giving them a striate, somewhat angular appearance, the margins recurved. Flower-heads rather large, about 20 to 30 in a terminal corymbose

panicle, generally well above the leaves, the panicle-branches with few shorter floral-leaves passing into the distant small bracts on the peduncles. Involucre hemispherical, the bracts numerous, acute, the inner ones fully 3 lines long, the somewhat shorter outer ones passing into the bracts on the peduncles. Ray-florets white faintly tinged with violet, about 30 in number or rather less, disk-florets longer than the involucre, abruptly narrowed at about the middle. Style-appendages narrow. Achenes densely silky hairy, the pappus-bristles of nearly equal length.

This interesting new species belongs to the Section Merismotricha of Archer's classification of the genus, and stands next to *O. adenophora* F.v.M., from which it is easily distinguished by the longer leaves, the herbaceous habit, and the absence of all viscidity. The collector asserts that it is an annual; and, if this be correct, it forms a rare exception to the usual habit of Australian species of the genus. It was found in masses in a clearing in virgin forest, at a considerable distance from all settlements, so that the supposition that it is a naturalised plant is very remote.

In honour of Miss Margaret Flockton, Botanical Artist, Botanic Gardens, Sydney, whose meritorious drawings of Australian plants are well known.

RUTIDOSIS LEIOLEPIS F.v.M. New for New South Wales.

Bibbenluke near Bombala (Miss E. Edwards; December, 1908).

The type-specimen was collected on the Snowy River, in Victoria. Bibbenluke is on an eastern tributary of the Snowy River in New South Wales, so it seems that the first recorded New South Wales specimen has been collected not far from the type-locality, though in an adjacent State.

ERECHTITES VALERIANÆFOLIA DC.

An introduced weed, new for New South Wales. This plant was reported in 1906, by Mr. F. M. Bailey, as overrunning certain Queensland scrubs; and we now report it also from New South

Wales. Mr. J. L. Boorman collected it in March, 1909, in a clearing in virgin forest at Dorrigo. It is a strong-growing plant, attaining 5 feet in height, and is distinguished from all Australian species of *Erechtites* by the colour of the pappus, which is purple at the top, paling down to white at the base.

The species is recorded in the "Index Kewensis" from Brazil only, but its range extends to North America. We have a specimen in the Herbarium collected, in 1899, by Prof. C. G. Pringle, in Mexico.

Ageratum conyzoides L. New for New South Wales.

Murwillumbah (R. C. Ewing; July, 1908).

It is not in Mueller's Census as a New South Wales plant, but one of us reported it in the Agricultural Gazette of New South Wales, in the year 1895, as a troublesome weed on the Northern Rivers.

Aster subulatus Michx.

Common in New South Wales.

Prof. A. J. Ewart writes (Proc. Roy. Soc. Vict. xix. 34, 1906) that this weed, which is common in New South Wales, appears to be spreading now in Victoria, and has been sent to Kew for determination, where it was determined as *Aster dumosus* L.(syn. *Tripolium conspicuum* Lindl., *Aster imbricatus* Walp., *A. arenaroides* Eaton). We had previously sent the same specimen to Mr. H. L. Fernald, of the Gray Herbarium of the Harvard University, U.S.A., who is a well-known authority on North American plants; and he determined the plant as *Aster subulatus* Michx., a species distinct from *A. dumosus* L. In comparing the New South Wales specimens with *Aster subulatus* and *A. dumosus* in this Herbarium, we found that our specimens agree exactly with the three or four specimens labelled *Aster subulatus*, and received from different sources and different localities; so that we must assume that Mr. Fernald's determination is the correct one.

FICOIDEÆ.

MACARTHURIA NEO-CAMBRICA, F.v.M.

Tomago, Hunter River (J. H. Maiden; May, 1908). The most southern locality recorded.

Bentham gives only one locality, Tweed River; and in the Herbarium we have it from only two localities, Byron Bay and Richmond River.

LAURACEÆ.

CASSYTHA FILIFORMIS L. New for New South Wales.

Coff's Harbour (J. L. Boorman; May, 1909).

The species has a wide range over the maritime districts in tropical Asia, Africa, and America; but has been, in Australia, previously only recorded from Queensland. It is evidently very closely allied to the common New South Wales *C. paniculata* R.Br., from which it can hardly be distinguished without fruits; but the fruits of the Coff's Harbour specimens are quite smooth, while the fruits of *C. paniculata* are distinguished by six raised longitudinal ribs.

LABIATÆ.

PRUNELLA VULGARIS L. var. LACINIATA Benth. (*P. laciniata* L.).

Mittagong (Henry Deane; November, 1900); Wingello (J. L. Boorman; December, 1900); Bowral (Wm. Greenwood; March, 1909).

Red and white flowering specimens of *Prunella*, received recently from Mr. Greenwood, drew our attention to this unrecorded variety, distinguished from the typical *P. vulgaris* by the white flowers and laciniate leaves. Var. *laciniata* seems not to be uncommon in New South Wales, but it has never been recorded, as far as we know. Opinions differ as to whether it is a variety of the common cosmopolitan *P. vulgaris*, or a distinct species. In the "Index Kewensis" it is regarded as distinct from *P. vulgaris*, while Bentham reduces it to a variety of *P. vulgaris* in De Candolle's Prodromus (Vol.xii., p.411); the fact that both are now recorded for Australia speaks in favour of Bentham's view.

ORCHIDEÆ.

PRASOPHYLLUM FIMBRIATUM R.Br., var.?

Charley's Forest near Braidwood, about 8 miles from the Currockbilly Mountain, at about 3000 feet altitude, growing chiefly amongst the prostrate *Grevillea Renwickiana* F.v.M.(J. L. Boorman; March, 1909).

Stems slender, generally between 1 and 2 dm. high, the leaf reduced to a sheathing bract. Flowers few to 8 in the spike, about 2 or 3 cm. long, of dark claret-colour in general impression. Lateral sepals united at the slightly gibbous base, linear but narrowed towards the top and spreading with an undulate twist, 5 or 6 mm. long and about 1½ mm. broad, acuminate and with a short abrupt point, purplish-brown, darker outside than inside, glabrous; dorsal sepal nearly the same length, acutely acuminate, light-coloured and striate, scantily fringed with purplish-brown hairs on the sides. Petals much narrower and shorter than the dorsal sepal and somewhat darker, acutely acuminate. Labellum contracted into a claw at the base, articulate and movable, gibbous at the base, linear-oblong, about as long as the lateral sepals, smooth at the surface and with two raised lines in the upper part, the edges densely fringed with long purplish-brown hairs. Lateral appendages of the column as long as the column, 2-toothed at the top, the inner tooth brown, the other yellow. Anther with a long point.

We drew up the above description from fresh specimens under the impression that we were describing a new species, *but we found out later that* we cannot point out any essential difference from Bentham's description of *P. fimbriatum*. Anyone who compares Mr. Fitzgerald's coloured plate of *P. fimbriatum* with the flower painted by Miss Flockton from our specimens, will at once see that the two plants cannot be identical. Apart from the striking difference in the colour, the two plants differ not inconsiderably in the shape of the labellum, petals, and appendages of the column. Robert Brown's original description applies equally well to both. To decide with certainty the question whether

Mr. Fitzgerald's specimen or our own is the nearer to R. Brown's type, access to the type-specimen is necessary, and this is beyond our reach.

GRAMINEÆ.

DICHELACHNE BRACHYATHERA Stapf, n.sp., Kew Bulletin, 1906, p. 203.

Swamp at head of Waterfall Gully, Mt. Wilson [Jesse Gregson (Gryson, in error, *loc. cit.*); March, 1906]. (Sent by us to Kew for examination).

This new species of *Dichelachne* is allied to *D. sciurea* Hook.f., but is distinguished from it by the smaller spikelets, the more unequal glumes, the much shorter awns, and the shorter anthers.

POA COMPRESSA L.

In these Proceedings, xxxiii., 1908, we recorded the above grass as new for Australia. Prof. Ewart has since drawn our attention to the fact that he has recorded this species as a naturalised alien for Victoria. It seems probable that, in this State also, the grass can be regarded only as an alien and not as truly indigenous.

FILICES.

GLEICHENIA FLAGELLARIS Spreng. New for New South Wales.

Cooranbong district, about 80 miles north of Sydney (J. W. Browne; March, 1909); Monga or Sugar-loaf Mountain, Braidwood (J. L. Boorman; March, 1909).

This Malayan fern was previously known in Australia only from a barren specimen collected on the top of the Macpherson Range, and published by Mr. F. M. Bailey some twenty years ago. It is common in the district from which we obtained the specimens, and it is sure to be found, in the future, in other Australian localities, but so far it seems to have escaped the attention of collectors.

Its systematic position is with *G. flabellata*, *i.e.*, the group with all the branchings leafy, but it is easily distinguished from it. In *G. flabellata* the angles in the forks of the branches are acute,

and the pinnules are half upright; in *G. flagellaris* the angles in the forks are often nearly or quite a right angle, and the pinnules spread horizontally. The habit of *G. flagellaris* is very much that of *G. linearis* Clarke (*G. dichotoma* Hook.), but the latter is sharply distinguished from all other Gleichenias by the branches being leafless below the fork.

The nomenclature of this fern presents some difficulties, but we have neither the herbarium-material nor the library at our disposal to be able to settle the difficulty. *Gleichenia flagellaris* Spr., and *G. lævigata* Hook., are united in Hooker's "Synopsis Filicum," and kept distinct in C. Christensen's "Index Filicum." In van Rosenburgh's quite recently published "Handbook of the Malayan Ferns" the author adopts Hooker's name *G. lævigata*, and adds (?) *G. flagellaris* Spr., as a doubtful synonym. In a footnote he explains that *G. flagellaris* Spr., which has the undersurface very glaucous, is probably another species very near our plant, but not Malayan. It seems that the typical *G. flagellaris* is a native of Mauritius, and the Malayan form is *G. lævigata*, united later with *G. flagellaris*; if this inference is correct, the fern in question should be called *G. lævigata* Hook., if *G. flagellaris* is regarded as a distinct species, but the latter name has priority if they are united.

Angiopteris evecta Hoffm.

Burringbar, Tweed River district (B. Harrison; May, 1909).

No specific New South Wales locality for this common tropical fern has been previously recorded, so far as we know. Mueller, in his Second Census of Australian Plants, gives "N.S.W., Q." as its habitat; and, as it is not a native of either Norfolk Island or Lord Howe Island (included by Mueller in his "N.S.W." records), we must infer that he knew of a specific locality in New South Wales, but we cannot find any reference to this locality in his publications, and Prof. Ewart informs us that there are no New South Wales specimens of *Angiopteris evecta* in the National Herbarium, Melbourne.

The fern is evidently very rare in New South Wales. Mr. Harrison writes "I know of only one specimen in the Tweed district." The most southern Queensland locality recorded by Mr. Bailey is: gullies of the Blackall Range" in 26° 45 S.L., over 100 miles north of the border of New South Wales.

OLEANDRA NERIIFORMIS Cav. New for Australia.

Herberton, North Queensland (R. F. Waller, 1908).

The genus *Oleandra* has not previously been recorded for Australia. *O. neriiformis* is a very variable species, with an extensive range over Malaya, the Pacific Islands, and Tropical Asia. The leaves of the Queensland specimens attain a length of 60 cm.; the stipe is 6-7 cm. long, and the articulation is less than 1 cm. from the rhizome.

MARSILIACEÆ.

MARSILEA ANGUSTIFOLIA R. Br.

Coolabah (J. H. Maiden and J. L. Boorman; December, 1908), forming a dense turfy mass along the sloping (at present) unsubmerged part of the dam.

A new locality for a plant rare in New South Wales.

EXPLANATION OF PLATES XXXI.-XXXII.

Plate xxxi.

Halorrhagis Lucasi, n.sp.

Fig. A.—Flowering twig; nat. size.
Fig. B.—Bud.
Fig. C.—Flower.
Fig. D.—Flower, opened out.
Fig. E.—Portion of flower.
Fig. F.—Anther.
Figs. G-H.—Young fruits.
Fig. K.—Vertical section of young fruit, showing pendulous ovules.
Fig. L.—Transverse section of ovary.
Fig. M.—Portion of leaf.

Plate xxxii.

Baeckea denticulata, n.sp.

Fig. A.—Flowering twig.
Fig. B.—Opening flower.
Fig. C.—Flower, opened out, two petals removed.
Fig. D.—Calyx, showing the pentagonal ring where the stamens have fallen off.
Fig. E.—Transverse section of ovary.
Fig. F.—Vertical section of ovary; one carpel removed.
Fig. G.—Anthers, *a*, unopened; *b*, open; *c*, back view.
Fig. H.—Leaf enlarged.